

### **III. REMARKS**

Claims 1, 10, 11 and 14 are amended.

It is first noted that the Examiner asserts that the Applicant is arguing the references individually. It is submitted that this assertion is specious at best as throughout Applicant's prior response and in those arguments presented herein Applicant continually argues the combination of references as applied to Applicant's claims. It is further noted that the Applicant's arguments follow the same format as the Examiner's rejections. For example, Applicant addresses the primary reference and then explains how the combination of the primary reference with the secondary reference(s) fails to disclose or suggest all the features of Applicant's claims. Applicant fails to see how this argument format can be considered arguing the references individually especially when the arguments clearly address the combination of references.

Claims 1-5, 7-11, 13 and 37 are patentable under 35 USC 103(a) over Mages (US 5772386) and Maydan (US 5882165). Claim 1 recites that when in the first position the substrate magazine is seated on a magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is

individually movable between the first and second positions while the substrate magazine remains seated on the magazine support. The combination of Mages and Maydan does not disclose or suggest these features.

Mages discloses two embodiments of a loading and unloading station. In the first embodiment (Fig. 1) the platforms 7 are adjustable horizontally in the direction of the wall element 2 (Col. 4, L. 31-32). The platforms 7, which are stacked one above the other, are also movable by means of the elevator 5 between at least two planes 9, 10 which are situated above one another (Col. 4, L. 35-38). Thus, in the first embodiment of Mages there are only two directions of movement of the platform 7 (i.e. vertically and towards the wall element 2) and thus, the transporting containers 6 are only moveable in these two directions.

In the second embodiment (Fig. 10) of Mages, the transporting containers 46 are stored in a storage on shelves 45 that are arranged one above the other (Col. 5, L. 61-64). The shelves 45 are arranged above the platforms 7 of the loading and unloading device of the first embodiment (Col. 5, L. 64-67). The containers 46 are transported between the shelves 45 and the loading and unloading device by a gripper 53 that is movable vertically and horizontally (Col. 6, L. 16-20). After a transporting container 46 is grasped by the gripper 53, it is transported horizontally from the storage shelf 45 into the open space 47 and is then transported vertically up to a plane which corresponds to the ergonomic height for manually charging the storage or to a plane for charging a platform of the loading and unloading device. Nowhere does Mages disclose or suggest that "when in the first position the substrate magazine is seated on a

magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is individually movable between the first and second positions while the substrate magazine remains seated on the magazine support" as recited in Applicant's claim 1.

At best Mages discloses horizontal movement of the transporting container 46 by the gripper 53 (which lifts the container 46 off of the shelf), a transfer of the container 46 to the platform 7 and then movement of the platform 7 in the direction of the wall element 2 and between the two planes 9, 10. Thus, even in the second embodiment of Mages, the transporting container 46 is only moved in two directions (e.g. vertically and towards the wall element 2) while located on the platform 7 which is clearly not what is claimed by Applicant. Moreover, the transporting containers 46 located on the platform 7 are not individually movable as the platforms 7 (Fig. 1) of Mages are both moved by elevator 5 such that when one container 46 on a first platform 7 is moved a second container 46 located on a second platform 7 is also moved (i.e. movement of the containers on the platforms 7, which are arranged one above the other, are tied together by virtue of the platforms being driven by the elevator 5).

Thus, Mages cannot disclose or suggest when in the first position the substrate magazine is seated on a magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position

and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is individually movable between the first and second positions while the substrate magazine remains seated on the magazine support.

Combining Mages with Maydan fails to remedy the above noted deficiency of Mages. Mayden discloses an external cassette elevator 24 adapted for holding a multiplicity of cassettes 26, 28 on a horizontal base plate 30. The horizontal base plate 30 is mounted on guide shafts 32, 34 for reciprocal horizontal indexing movement (Col. 4, L. 31-40). Thus, at best Maydan discloses a single plate 30 that holds multiple cassettes 26, 28 where movement of the plate 30 simultaneously moves every cassette 26, 28 located on the plate 30 in only two directions (e.g. vertically and side to side).

Thus, because Mages and Maydan individually fail to disclose or suggest when in the first position the substrate magazine is seated on a magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is individually movable between the first and second positions while the substrate magazine remains seated on the magazine support as recited by Applicant, their combination cannot as well.

Moreover, it is noted that while Mages discloses the platforms 7 (and thus the transporting containers located thereon) move in the direction of the wall element 2 and between the two planes 9, 10, combining the base plate 30 of Maydan with the platform 7 of Mages does not disclose "individually moving" the cassettes. As noted above movement of the platforms 7 (and the containers located thereon) of Mages are tied to each other by virtue of the elevator 5. Any horizontal movement provided to Mages by the base plate 30 of Maydan (which holds multiple cassettes that move together as a unit) parallel to the wall element 2 fails to disclose "individually moving" a "substrate magazine" as claimed by Applicant as all of the cassettes 26, 28 located on the base plate 30 of Maydan are moved together as a unit. Even if Maydan is modified to hold only one cassette, this does not change the fact that all of the platforms 7 in Mages move as a unit such that when one platform 7 (and the cassette located thereon) is moved all of the platforms 7 (and cassettes located thereon) are moved.

Thus, for the above noted reasons, the combination of Mages and Maydan cannot disclose or suggest when in the first position the substrate magazine is seated on a magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is individually movable between the first and second positions while the substrate magazine remains seated on the magazine support as recited in Applicant's claim 1.

Claim 1 further recites that the first and second positions are horizontally coplanar. The combination of Mages and Maydan does not disclose or suggest this feature.

It is acknowledged in the office action that Mages does not disclose or suggest that the first and second positions are horizontally coplanar. However, it is asserted that Maydan discloses this feature citing to reference numerals 26, 28 and 24, 30.

The crux of the Examiner's argument is that it is obvious to combine Mages with Maydan to arrive at what is claimed by Applicant solely because Maydan shows horizontal coplanar movement. The Examiner argues that one skilled in the art would have no trouble modifying Mages to have horizontal coplanar movement and there would be no need to pull the other unneeded features of Maydan into the modified Mages. One can only assume that the "unneeded features" of Maydan referred to by the Examiner includes the base plate 30 as the Examiner only seems to be incorporating the horizontal movement of Maydan without the associated structure that provides that horizontal movement. If the base plate 30 of Maydan, which is the structure that provides the horizontal movement, were also incorporated into Mages, the combination would not neatly fit into the Examiner's reasoning for combining the references, i.e. obtaining a more compact device.

The Examiner argues that Fig. 10 of Mages shows that there is space to incorporate horizontal movement as claimed by Applicant, but this argument is not supported by what is disclosed in Mages. In Mages the storage has only two columns. One of the columns located where the platforms 7 and the storage shelves 45 are stacked one above the other. The other column is where the space

47 is located that allows the transporting containers 46 to be transported from one of the storage shelves 45 to the platforms 7 via that gripper 53. If Mages were modified so that each platform 7 were to hold two side by side containers 46 the modified platform would not be able to move horizontally as it would occupy both the first and second columns (see Fig. 11 of Mages) thereby preventing passage of the gripper in space 47. Also, one of the containers located on the modified platform would be located in the space 47 while the other would be located so that it is vertically aligned with the storage shelves 45 which clearly results in the container vertically aligned with the storage shelves 45 being trapped and immovable unless the container in the space 47 is removed. To make the Examiner's combination of the references even remotely feasible the storage of Mages would have to be widened to include at least three columns which inevitably would result in a larger device. This is directly contrary to obtaining the more compact device envisioned by the Examiner. Thus, the combination proposed by the Examiner would not be predictable as asserted by the Examiner.

In the Examiner's argument it appears that just a horizontal drive motor is being incorporated into Mages in view of Myadan to move the platforms 7 in Mages horizontally. However, doing so still does not disclose or suggest what is claimed by Applicant (i.e. when in the first position the substrate magazine is seated on a magazine support and communicates with the aperture, and when moved to the second position the substrate magazine is offset from the first position and is buffered adjacent the aperture while remaining seated on the magazine support so that another substrate magazine is capable of being located at the first position in communication with the aperture, wherein the buffer transport is arranged so that each substrate magazine is

individually movable between the first and second positions while the substrate magazine remains seated on the magazine support and wherein the first and second positions are horizontally coplanar). This unreasonable combination of Mages and Maydan would result in the stack of platforms 7 in Mages being movable between the first and second columns. However, movement of the stack of platforms into the space 47 (i.e. the second column) would prevent travel of the gripper 53 within the column to deliver the transport containers 46 to the platforms 7. Mages expressly teaches away from this combination as it is expressly recited that "it is essential that space 47 corresponding to the dimensions of the transporting containers 46 be left open between the storage shelves 45 and a wall of the housing 44." Further, horizontal movement of the stack of platforms 7 in Mages is prohibited as the platforms 7 would collide with the guides 51 and block the loading opening 50 which serve to manually charge the storage with the transporting containers 46. Thus, even if Mages is not modified with the base plate 30 of Maydan such that the modification of Mages in view of Maydan only includes a horizontal drive for driving the stack of platforms 7, the combination would result in an inoperable condition of the storage as its operation is clearly defined in Mages. Therefore, claim 1 is patentable over the combination of Mages and Maydan for this additional reason. It is noted that in order to make this combination of Mages and Maydan work the storage of Mages would have to be completely redesigned and made larger such that the operation of the storage would no longer be as described in Mages.

The Examiner also asserts in the office action that the Applicant's arguments regarding the resulting increase in size of the device in Mages appears to be for a device different than the

actual combination used. Applicant respectfully requests that if the Examiner maintains the rejection that the Examiner explicitly describe the device that results from actual combination used as Applicant can in no way envision the proposed combination resulting in a "more compact device." As the specific combination used by the Examiner in rejecting the claims is unknown, the Applicant is addressing multiple possible combinations of the references in the instant office action.

As the Examiner knows, if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). It is respectfully submitted that combining Maydan with Mages would result in an inoperable combination, not only for the reasons described above, but also for the additional reasons described below.

As described above, Maydan discloses an external cassette elevator 24 adapted for holding a multiplicity of cassettes 26, 28, in a vertical position. The external cassette elevator assembly 24 comprises a first horizontal base plate 30 that is mounted on guide shafts 32, 34 for reciprocal horizontal indexing movement to selectively position each cassette directly opposite and aligned with load lock chamber entrance slit or opening 36. (Col. 4, L. 31-40). There is absolutely no disclosure or suggestion in Maydan of any travel of the plate 30 toward the opening 36. As can be seen in Figure 2 of Maydan, such movement is not permitted as the wafers 15 in the cassettes 26, 28 would collide with the doors 38 (if the door is open) or not permit the door 38 to pivot to its open configuration (if the door is closed).

Taking horizontal base plate 30 of Maydan and combining it with Mages would remove the motion of the platform 7 of Mages along plane 10. This combination would effectively eliminate any coupling between the container 6 and shield 11 in Mages for sealing the opening during loading and unloading of the disk shaped objects to and from the container 6. The inability to effect the seal 11 prohibits maintaining the clean room environment of Mages (see Mages, Col. 5, L. 4-7).

Furthermore, it is submitted that if Maydan were combined with Mages, the principle operation of Mages would be significantly changed. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

In Mages a gripper 53 which is moveable vertically and horizontally (by horizontal drive 55 and elevator 56) is used to lift the transporting containers 46 off stationary storage shelves 45 and transfer the containers for manually loading or removal from the storage through the lockable loading opening 50 (Col. 6, L. 16-32; Fig. 10) and vice versa. In Mages after the transport container 46 is grasped, it is transported horizontally from the storage shelf 45 into the open space 47 and is then transported vertically up to a plane which corresponds to the ergonomic height for manually charging the storage or to a plane for charging a platform of the loading and unloading device (Col. 6, L. 27-32). Inserting the plate 30 of Maydan into the device of Mages would render the vertical travel of the gripper 53 virtually impossible as the side by side arrangement of the

cassettes 26, 28 on the plate 30 would effectively block the open space 47 of Mages as described above.

Alternatively, if the plate 30 of Maydan is located so that one cassette 26, 28 is located in front of the loading/unloading opening in Mages and the other cassette 26, 28 is located under the stack of shelves 45 of Mages access to a portion of the plate 30 would be blocked if a cassette is located at the loading/unloading location of Mages as is also described above. Moreover, the plate 30 of Maydan would not be able to move horizontally if placed in the device of Mages to position the two cassettes 26, 28 in front of the loading/unloading location as the whole plate 30 must move. As can be seen in Mages the device will not allow such movement of the plate 30 (See Fig. 11 of Mages). In order to allow such movement the device in Mages would have to be significantly redesigned and made larger (as described above to include at least three columns) to accommodate the travel of the plate 30 which contradicts the Examiner's reasoning for combining the references, i.e. "to have the magazines on a common magazine support and buffered from a first to a second horizontally coplanar position (providing another different direction of movement) adjacent the aperture while remaining on the magazine support in order to have a more compact device."

Again it is noted that Mages operates as a vertical storage having storage shelves (arranged one above the other) on one side of the housing 44 and a space 47 located on the other side of the housing 44 to allow for the transport of containers to and from the vertically arranged storage shelves 45. (Col. 5, L. 61 - Col. 6, L. 33). The gripper 53 in Mages is used to transport the container from one side of the housing 44 to the other by picking

the containers off of the shelves 45, moving them through the space 47 and placing the containers at the charging platform 52 or the loading opening 50 so that the housing has a width equal to only two containers. As another possible combination of the references, substituting the gripper 53 with the horizontal base plate 30 of Maydan to allow for horizontal buffering of the containers would increase the width of the housing to at least the width of four containers arranged side by side (the storage shelf width increases and the width of the space 47 in Mages increases to allow for the passage of the base plate 30 of Maydan in the space 47).

Further, the base plate (30) of Maydan would not be capable of moving vertically within the housing (44) of Mages if the two references were combined such that the containers can be transported to the storage shelves (45) in the manner described in Mages. In essence if the two references were combined the gripper (53) of Mages would essentially comprise the horizontally moveable base plate (30) of Mayden such that the entire base plate (30) is transported vertically in the space (47) so a number of base plates (30) can be stacked. Each base plate would have to have its own transport mechanism (unless the base plates are picked off of a storage shelf in the manner described for each individual container in Mages). This in and of itself would substantially increase the size of the housing (44) in that the space (47) as well as the storage areas would have to be widened to accommodate the base plate (30).

In addition the loading opening (50) and the charging platform (52) in Mages are located at an edge of the housing (see Figs. 9-11). Thus, in order to allow all of the containers located on the base plate (30) to be accessed through the loading opening

(50) and charging platform (52), if Mages and Maydan were combined as suggested, the housing would have to be widened to accommodate the horizontal travel needed by the base plate (30).

Thus, one skilled in the art would not combine Mages and Maydan as suggested in the Office Action to have "a more compact device" as combining the two references would clearly result in making Mages inoperable for its intended purpose or a significant change in the principle operation of Mages.

Thus, Applicant's claim 1 is patentable for the above noted reasons. Claims 2-5, 7-9, 13 and 37 are patentable at least by reason of their respective dependencies.

Claim 11 is patentable under 35 USC 103(a) over Mages and Maydan. Claim 11 recites a sensor rotatably mounted on a frame of the station such that upon removal of a door of the magazine, the sensor rotates so that an emitter and receiver of the sensor extends inside the magazine extends inside the magazine. Nowhere is this disclosed or suggested in Mages.

Mages does not disclose how the sensor 21 is mounted as admitted by the Examiner in the Final Office Action. The Examiner appears to be only acknowledging select features (i.e. a "sensor" "mounted on a frame") of Applicant's claim 11 when formulating the rejection. It is submitted that the Examiner is blatantly ignoring the remaining features of Applicant's claim 11. In support of the rejection, the Examiner merely argues that his reliance on Applicant's own specification in support of the rejection is only made to support the understanding that the particular mounting location of the sensor are things that one of ordinary skill would know well enough to achieve the claim limitations. However, Applicant's own specification cannot be

used for supporting the rejection in this instance. The Examiner is reminded that MPEP § 2129 recites "a statement by an applicant >in the specification or made< during prosecution identifying the work of another as "prior art" is an admission \*\*>which can be relied upon for both anticipation and obviousness determinations, regardless of whether the admitted prior art would otherwise qualify as prior art under the statutory categories of 35 U.S.C. 102. *Riverwood Int'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354, 66 USPQ2d 1331, 1337 (Fed. Cir. 2003); *Constant v. Advanced Micro-Devices Inc.*, 848 F.2d 1560, 1570, 7 USPQ2d 1057, 1063 (Fed. Cir. 1988)." The portion of Applicant's specification on page 14, lines 17-19 referred to by the Examiner in support of the rejection clearly does not "identify the work of another as prior art" and in no way constitutes an admission of prior art by the Applicant. However, even if the Examiner considers the language of Applicant's specification "prior art" (which Applicant maintains it is not) the Examiner is reminded that "the work of the same inventive entity may not be considered prior art against the claims unless it falls under one of the statutory categories. *Id.*; see also *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 650, 223 USPQ 1168, 1172 (Fed. Cir. 1984)" (MPEP § 2129). The statutory classes of prior art are listed in 35 USC 102, which recites:

A person shall be entitled to a patent unless -

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

- (c) he has abandoned the invention, or
- (d) the invention was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application for patent or inventor's certificate filed more than twelve months before the filing of the application in the United States, or
- (e) the invention was described in - (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language; or
- (f) he did not himself invent the subject matter sought to be patented, or
- (g)(1) during the course of an interference conducted under section 135 or section 291, another inventor involved therein establishes, to the extent permitted in section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

The language at page 14, lines 17-19 of Applicant's specification clearly does meet any of the criteria for prior art set forth in 35 USC 102(a)-(g). In addition, if the Examiner is asserting equivalence as a rationale for supporting the obviousness rejection, the equivalence must be recognized in the prior art, and cannot be based on Applicant's disclosure (see MPEP § 2144.06(II)). Applicant has in no way expressed recognition of an art-recognized or obvious equivalent with respect to the sensor claimed in Applicant's claim 11. If a sensor rotatably mounted on a frame of the station such that upon removal of a door of the magazine, the sensor rotates so that an emitter and receiver of the sensor extends inside the magazine extends inside the magazine is so well known in the art, then the Examiner should have no problem finding a reference that discloses these features without improperly relying on Applicant's own disclosure.

In essence the Examiner's rejection of claim 11 based on the combination of Mages and Mayden is nothing more than a conclusory statement especially because there is absolutely no support for the rejection in any of the cited references. "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). Support for the Examiner's rejection is gleaned solely from Applicant's own disclosure and nothing more.

All that is disclosed in Mages is that "an index sensor 21 detects the projections 18 and the disk shaped object 19 during the vertical adjustment of the transporting container 6". It would not be obvious to one skilled in the art to modify Mages to

achieve what is claimed in Applicant's claim 11 without the impermissible use of hindsight because there is no disclosure or suggestion that the sensor (21) is "rotatably mounted on a frame of the station such that upon removal of a door of the magazine, the sensor rotates so that an emitter and receiver of the sensor extends inside the magazine" as recited by Applicant. All that Maydan discloses is that the cassette elevator (24) is adapted by indexing system (40) for reciprocal vertical indexing movement (Col. 4, L. 42-46). There is no disclosure of sensor associated with the indexing in Maydan.

Thus, the combination of Mages and Maydan does not disclose or suggest that a sensor rotatably mounted on a frame of the station such that upon removal of a door of the magazine, the sensor rotates so that an emitter and receiver of the sensor extends inside the magazine as claimed by Applicant.

As argued in Applicant's prior response rejection of claim 11 is based solely on hindsight in light of Applicant's disclosure. The Examiner asserts that the use of Applicant's specification is not using hindsight but rather "it shows that applicant has stated that the particular mounting is not important as long as the sensor can perform its job." It is respectfully noted that this is not what is recited in Applicant's specification. Page 14, lines 16-20 recite verbatim that "[i]n another embodiment, sensor 245 may be mounted in any orientation at any location so long as sensor 245 is capable of scanning substrates present inside magazine 210." The examiner also cites to *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971) for the proposition that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within

the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such as reconstruction is proper. However, the Examiner has not presented any proof (other than his reliance on Applicant's disclosure) that the features of claim 11 were within the level of ordinary skill at the time the claimed invention was made. Thus, the Examiner's rejection only includes knowledge gleaned from applicant's disclosure. In attempts to justify the rejection the Examiner has only been able to recite the language in Applicant's specification as supporting the rejection and nothing else. It is further noted that, that this rejection effectively denies Applicant the use of alternative language in it's own specification to describe alternative embodiments so that proper disclosure can be made with respect to aspects of Applicant's invention.

Thus, for the above reasons, claim 11 is patentable over the combination of Mages and Maydan. Claim 10 depends from claim 11 and is patentable at least by reason of its dependency.

Claims 11, 14-17, 19, 20, 22 and 24-28 are patentable under 35 USC 103(a) over Mages and Gordon (US 6013920). Claim 11 is patentable over Mages for the reasons noted above. As such, the combination of Mages with Gordon does not disclose or suggest that the sensor is rotatably mounted on a frame of the station such that upon removal of a door of the magazine, the sensor rotates so that an emitter and receiver of the sensor extends inside the magazine.

The Examiner argues in the Office Action that Gordon discloses "it is known to rotatably mount (clearly shown in Figure 8) the

sensor on the frame and extending the sensor in the FOUP." In Applicant's prior response the Applicant requested that the Examiner explicitly explain how Gordon "clearly shows" a rotatable sensor in Fig. 8. The Examiner has not done so, as the Examiner again merely repeats the language "it is known to rotatably mount (clearly shown in Figure 8) the sensor on the frame and extending the sensor in the FOUP." This is *prima facie* proof that Gordon does not disclose a rotatable sensor as claimed by Applicant as if Gordon did disclose a rotatable sensor (which Applicant maintains it does not) the Examiner would have little difficulty explaining the rotating sensor disclosed in Gordon rather than merely making reference to a drawing that clearly does not show a rotatable sensor.

Figure 8 of Gordon clearly shows that the sensors 86, 106 are mounted flush with a surface of the end effector 42 and nothing more. The end effector 42 and thus the sensors 86, 106 in Gordon are only moved linearly vertically or horizontally (i.e. to move the door 48 horizontally away from the FOUP 22 / bulkhead 24 and vertically downward into the covers 78) (Col. 4, L. 16-34 and Col. 5, L. 16-34). In Gordon, as the end effector 42 removes the door, the end effector 42 moves away from the FOUP carrying the sensor 86 away from the FOUP as well (See Figs. 4 and 5 of Gordon). There is simply no disclosure or suggestion in Gordon that the sensor 86 "rotates so that an emitter and receiver of the sensor extends inside the magazine extends inside the magazine" as recited in claim 11.

Thus, claim 11 is patentable over the combination of Mages and Gordon because their combination does not disclose all the features of claim 11.

Claim 14 recites that the fluidic magazine door drive further comprises an encoder different from the sensor, the encoder being configured for determining the vertical position of the sensor. The combination of Mages and Gordon does not disclose or suggest this feature.

Mages discloses that the lifting cylinders 32, 33 are provided for vertical adjustment and for adjusting the arm 29 relative to the wall element. The lifting cylinder is swivelable together with the support plate 34 about an axis X-X until reaching a stop 35 by means of the action of the lifting cylinder. (Col. 5, L. 29-35). Nowhere does Mages disclose "encoders" on the lifting cylinders that are "different from the sensor" and "being configured for determining the vertical position of the sensor". It is argued in the Office Action that Mages not having an encoder on the lifting cylinders is not a limitation in the claims. It is respectfully submitted that this statement is incorrect. Applicant's claim 14 clearly states that the fluidic magazine door drive comprises an encoder. Thus, the "drive" in Mages (i.e. the lifting cylinder) does not have encoders as recited in claim 14.

It is further noted that the sensor 21 in Mages is not an encoder as recited in Applicant's claim 14. There is only one sensor disclosed in Mages (i.e. sensor 21) thus, by this fact alone Mages cannot disclose or suggest the above noted feature of claim 14 as the sensor 21 cannot be different from itself.

It is asserted in the office action that the language "for determining the vertical position of the sensor" is intended use language that is not being considered by the Examiner, however this language defines the structure of the encoder and cannot be ignored as a mere intended use.

Sensor 21 in Mages is a stationary sensor that is disclosed as detecting the projections 18 and the disk shaped objects 19 during the vertical adjustment of the transporting container (Col. 5, L. 8-10). Mages does not disclose how the sensor 21 is mounted, and failure to disclose structure cannot be construed as anything more than that.

Combining Mages with Gordon fails to remedy this defect.

Gordon merely discloses that the end effector 42 and the door drive mechanism 72 includes a lead screw 102 together with a stepping motor 104. Data specifying a Z-axis location for the FOUP 22 in Gordon can be obtained by counting pulses supplied to the stepper motor 104.

In Gordon the stepper motor 104 of the screw drive for opening the door is used to determine a location of the FOUP 22 and nothing more. As noted above the location of the screw drive is tracked by pulses supplied to the stepper motor 104. Therefore, the stepper motor of Gordon is not an "encoder" on the lifting cylinders that is "different from the sensor for determining the vertical position of the sensor" as recited in Applicant's claim 14.

Thus, claim 14 is patentable because the combination of Mages and Gordon does not disclose or suggest that the fluidic magazine door drive further comprises an encoder different from the sensor, the encoder being configured for determining the vertical position of the sensor as recited in Applicant's claim 14.

Moreover, one skilled in the art would not combine Mages with Gordon as suggested by the Examiner. In making the rejection of claim 14 the Examiner refers to the following features of Mages: the elevator 5 for positioning the open substrate magazine 6 and

the sensor 21 for providing elevator vertical position information. However, these features do not determine the vertical position of a sensor of a fluidic magazine door drive. The sensor (21) in Mages is for indexing the movement of the elevator (5).

The end effector (42) and the door drive mechanism (72) of Gordon includes a lead screw (102) together with a stepping motor (104). The stepper motor (104) of the screw drive for opening the door is used to determine a location of the FOUP (22) and nothing more. The position of the drive for opening the door is tracked through pulses that are supplied to the stepper motor (104). Thus, there is no need to provide an "encoder" on the lead screw drive of Gordon.

The combination of Mages with Gordon is based solely on the impermissible use of hindsight in light of Applicant's disclosure as none of the features of the references cited by the Examiner when combined disclose what is claimed by Applicant. If Mages and Gordon were combined the result would be the elevator/storage system of Mages having the lead screw door opener of Gordon and nothing more.

Claims 15-17, 19, 20, 22 and 24-28 are patentable at least by reason of their respective dependencies.

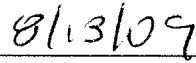
For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

  
\_\_\_\_\_  
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I hereby certify that this correspondence is being transmitted electronically on the date indicated below and addressed to Mail Stop AF, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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WILLIAM J. KNOTTS JR.  
Person Making Deposit